

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of May 30, 2006 is respectfully requested.

In the Office Action, the Examiner rejected previously-pending claims 15-32 under 35 USC § 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner asserted that the original disclosure did not teach a “mold-formed” annular streak pattern. Without acquiescing to the Examiner’s assertion, the Applicants note that independent claim 15 and 30 have now been amended to remove the term “mold-formed.” As a result, it is submitted that the Examiner’s formal rejections under section 112 have been overcome.

On pages 3-6 of the Office Action, the Examiner rejected independent claims 15 and 30, as well as several of the dependent claims, as being unpatentable over the Nakada reference (USP 5,792,302) in view of the Nishibori reference (USP 5,869,138); and rejected the remaining dependent claims as being unpatentable over the Nakada reference in view of the Nishibori reference, and further in view of the Young reference (USP 3,802,291), the Kiyoshi reference (JP 07117326), and the Uchida reference (USP 4,581,954). However, as indicated above, the claims have now been amended so as to further clarify the distinctions between the present invention and the prior art. Therefore, for the reasons discussed below, it is respectfully submitted that amended independent claims 15 and 30 and the claims that depend therefrom are clearly patentable over the prior art of record.

As discussed on pages 1 and 2 of the original specification, it is very desirable to have a steering wheel with an annular rim section that has both the feel and the appearance of wood. Unfortunately, steering wheels with annular rim sections made of real wood are difficult and expensive to manufacture, and are susceptible to distortion caused by environmental conditions. Furthermore, conventional techniques of providing “imitation-wood” steering wheels do not provide both the feel and the appearance of real wood. Moreover, many of these techniques involve multiple layers including an outer veneer, but these techniques are complex and

expensive to assemble, and are susceptible to damage due to chipping or peeling of the outer veneer layer.

The present invention as recited in amended independent claims 15 and 30 addresses the above problems by providing a steering wheel that provides both the appearance and feel of natural wood while also providing a sturdy and relatively simple structure which minimizes cost and potential for defects. Specifically, amended independent claims 15 and 30 are each directed to a steering wheel comprising an annular rim section including a core and arcuate-shaped and elongated rim elements mounted on the core. Each of the rim elements *has an inner surface contacting the core*, and each of the elongated rim elements is formed of *one type of material*, wherein the one type of material is *thermosoftening synthetic resin material blended woodmeal* so as to have an outer surface of the thermosoftening synthetic resin material and the woodmeal. The outer surface has an annular streak pattern extending along a longitudinal axis of each of the elongated rim elements, and the annular streak pattern is defined by the woodmeal within the thermosoftening synthetic resin material.

As a result of the arrangement recited in the amended claims as described above, the present invention provides a steering wheel with rim elements having an outer surface made of synthetic material so as to be more durable and cheaper than real wood, but with the look and feel of wood. Furthermore, because the rim elements are formed of one type of material, the structure is simplified, minimizing the potential for defects or damage.

The Nakada reference is directed to a manufacturing method for a molded article. As generally illustrated in Figures 3 and 5, the molded article of the Nakada reference includes an inner core wire 2 (see column 5, lines 21-24), and a resin layer 3 over the core wire 2 (see column 4, lines 36-42). Multiple wood layers 4 are then provided over the resin layer 3, including a wood veneer 5 and possibly a second wood veneer 6 (see column 3, lines 34-59). However, as acknowledged by the Examiner on page 4 of the Office Action, the Nakada reference does not teach or suggest that the rim elements are formed of thermosoftening synthetic

material blended with woodmeal so as to have an outer surface streak pattern as recited in independent claims 15 and 30.

Nonetheless, the Examiner applied the Nishibori reference as teaching a thermosoftening synthetic resin blended with woodmeal so as to form a streak pattern. Thus, the Examiner asserted that it would be obvious to a person of ordinary skill in the art to “modify the steering wheel rim section made of wood of Nakada et al. with the material being made of thermosoftening synthetic resin including woodmeal and color pigment of Nishibori” so as to obtain the steering wheel as recited in independent claims 15 and 30. However, in view of amended claims 15 and 30, this rejection based on the combination of the Nakada reference and the Nishibori reference is improper for several reasons, as explained below.

(1) Firstly, it is noted that each of amended independent claims 15 and 30 now recite that each of the arcuate-shaped and elongated rim elements is formed of *one type of material*, and that each of the rim elements has an *inner surface contacting the core*. On the other hand, even if one of ordinary skill in the art was to “modify the steering wheel rim section made of wood of Nakada” by substituting the thermosoftening resin material including wood meal as taught in the Nishibori reference for the outer veneer layers 4 of the Nakada reference (if such modification is even possible, as discussed below), the result would be a *composite structure* including a core, the *resin layer 3*, and the elongated rim elements of thermosoftening synthetic resin formed on the outer surface of the resin layer 3. In other words, each of these rim elements would be formed of *multiple types* of material, including the resin layer 3 and the layer of thermosoftening resin material including wood meal. Thus, it is clear that such a structure does not disclose or suggest that each of the elongated rim elements is formed of *one type of material*, in which the one type of material is thermosoftening synthetic resin material blended with wood meal. Alternatively, if it is the Examiner’s position that only the outer layers 4 of the Nakada reference constitute the rim elements such that replacement of these layers with the thermosetting resin and woodmeal material of the Nishibori reference would constitute rim elements formed of one type of material, then it is noted that the inner surface of such rim elements would not be contacting the core 2 of the Nakada reference as further required in amended claims 15 and 30. Therefore, it

is submitted that the combination of the Nakada reference and the Nishibori reference does not teach or suggest the steering wheel as recited in amended independent claims 15 and 30.

(2) Secondly, it is submitted that it would not be obvious to one of ordinary skill in the art to combine the teachings of the Nishibori reference with the Nakada reference as suggested by the Examiner. In item 10 spanning pages 8 and 9 of the outstanding Office Action, the Examiner asserted that, because the Nishibori reference teaches using the synthetic wood sheet as an outer decorative product for an automobile, such an arrangement would provide the basis for one of ordinary skill in the art to apply the synthetic wood sheet of the Nishibori reference to the steering wheel as recited in amended independent claims 15 and 30. However, the Applicants respectfully disagree. As noted previously by both the Examiner and the Applicants, the Nishibori reference is directed to a method of forming pattern on a synthetic wood *board*. More specifically, the invention of the Nishibori reference is directed to substantially flat paneling, sheets, blocks, or boards which are formed to have the general appearance of wood (see column 1, lines 42-50; column 4, lines 41-54). The reference describes processes for forming these flat boards, but does not teach or suggest how to form arcuate-shaped and elongated rim elements having an outer surface with an annular streak pattern. In contrast to the Examiner's position, it would not be obvious to one of ordinary skill in the art to modify these boards, panels, and sheets so as to obtain *arcuate-shaped and elongated rim elements*, particularly rim elements so shaped as to be applicable to a steering wheel. Specifically, attempting to bend the flat boards in this extreme a manner would likely cause cracking or similar defects in the boards, and would at least cause the streaks in the surface to become deformed. In this regard, the Nishibori reference explains that both sides of the board must be sanded in order to *prevent camber* (i.e., deformation) of the board due to residual inner stress (see column 6, lines 53-56). Therefore, if the process of forming the boards of the Nishibori reference is so delicate that both sides of the board must be sanded to avoid damaging the board (even though only one of the sides will be seen), it is submitted that attempting to bend the boards to the degree necessary to form them into arcuate-shaped and elongated rim elements would completely render the boards unsatisfactory due to distortion or cracking. For this reason, it is submitted that it would not be obvious to one

of ordinary skill in the art to look to the flat boards of the Nishibori reference so as to modify the arcuate-shaped wood veneer of the Nakada reference to form arcuate-shaped and elongated rim elements as required in amended independent claims 15 and 30.

It is submitted that the Young reference, the Kiyoshi reference, and the Uchida reference also do not, either individually or in combination, teach or suggest the arcuate-shaped and elongated rim elements as recited in amended independent claims 15 and 30. Therefore, these references would also provide no apparent reason to modify the Nakada reference and/or the Nishibori reference to obtain the steering wheel as recited in amended independent claims 15 and 30. Accordingly, it is respectfully submitted that amended claims 15 and 30 are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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